In the Claims

Claims 1-28 (Canceled)

29. (Previously Presented) A device for applying pressure to a body limb having a primary axis, comprising:

first and second inflatable cells, each of the first and second cells including at least three intra-cell compartments; said intra-cell compartments being confluent, each compartment being elongated along a primary axis of a body limb and being substantially rectangular in shape when deflated and substantially cylindrical in shape when inflated, cylindrical axes of the inflated compartments substantially aligning with the primary axis of the limb, the first and second cells being longitudinally adjacent each other, and arranged coaxially with respect to the primary axis of the limb, the first and second cells being intermittently inflatable to apply pressure to the limb, wherein the inflatable cells each comprise inner and outer shells of durable flexible material, said inner and outer shells being bonded together to form a perimetric cell bond to define the inflatable cell therebetween, said inner and outer shells being further bonded together to form compartmental bonds within the perimetric cell bond to define the plurality of intra-cell compartments, wherein the perimetric cell bond includes upper and lower perimetric cell bonds extending substantially in a lateral direction, and left and right perimetric cell bonds extending substantially in the longitudinal direction, and wherein the compartmental bonds partly extend between the upper and lower perimetric cell bonds, wherein the compartmental bonds include perforations to allow for confluent air flow between compartments within a cell, neighboring compartments along a lateral axis sharing a common border and being spatially fixed relative to each other, such that upon inflation of a cell, the cell becomes circumferentially constricted, the first and second cells being non-confluent such that the first and second cells are separately inflatable;

means for laterally coupling outermost compartments so as to form a sleeve substantially cylindrically;

inflating means for intermittently inflating the first and second cells; and

control means for determining a treatment specificity of each cell and for determining a timing sequence for inflating of each cell based on the determined treatment specificity of each cell;

said sleeve having a center point circumference of $N\pi r$ when the cell is deflated and a center point circumference of $2Nr$ when the cell is inflated, where N is the number of compartments in the cell, and where r is the cross-sectional radius of each compartment when inflated, the center point circumference being a line passing through each center point of each adjacent intra-cell compartment of said inflatable cell;

said compartmental bonds of said intra-cell compartments, during inflation, being drawn towards each other to decrease a distance therebetween and towards the center point of said intra-cell compartments to decrease a distance therebetween, so as to provide for circumferential constriction.

30. (Previously Presented) The device of claim 29, wherein the center point circumference is decreased upon inflation by about 36%.

31. (Previously Presented) The device of claim 29, wherein the bond comprises a weldment.

32. (Previously Presented) The device of claim 29, wherein adjacent compartments are contiguous.

33. (Previously Presented) The device of claim 29, wherein the perforations are located adjacent the perimetric cell bond.

34. (Previously Presented) The device of claim 29, wherein the perforations are located between compartmental bonds extending from the upper and lower perimetric bonds.

35. (Previously Presented) The device of claim 29, further comprising a fluid inlet to provide for inflation and deflation of the cell.

36. (Previously Presented) An automatic portable ambulant system for applying pressure to a body limb, comprising:

a sleeve including first and second inflatable cells, each of the first and second inflatable cells including at least three intra-cell compartments;

said intra-cell compartments being confluent, each compartment being elongated along a primary axis of a body limb and being substantially rectangular in shape when deflated and substantially cylindrical in shape when inflated, cylindrical axes of the inflated compartments being adapted to substantially align with the primary axis of a body limb, the first and second cells being adjacent to each other and being adapted to be arranged coaxially with respect to the primary axis of a body limb, the first and second cells being intermittently inflatable to apply pressure to a body limb, wherein each inflatable cell comprises inner and outer shells of durable flexible material;

said inner and outer shells being bonded together to form a perimetric cell bond, said perimetric bond defining outer boundaries of an inflatable cell and boundaries between the inflatable cells, said inner and outer shells being further bonded together to form compartmental bonds, said compartmental bonds defining boundaries between intra-cell compartments, wherein the perimetric cell bond includes upper and lower perimetric cell bonds extending substantially in a lateral direction, and left and right perimetric cell bonds extending substantially in the longitudinal direction, and wherein the compartmental bonds partly extend between the upper and lower perimetric cell bonds, wherein the compartmental bonds include perforations to allow for confluent air flow between intra-cell compartments within a cell, the first cell becoming circumferentially constricted when the first cell is inflated, the second cell becoming circumferentially constricted when the second cell is inflated, the first and second cells being non-confluent such that the first and second cells are separately inflatable;

means for laterally coupling the outermost intra-cell compartments within a cell so as to form said sleeve substantially cylindrically;

a portable hand-held pump unit for intermittently inflating any one or more selected cells of the sleeve via a conduit, said pump unit including a control unit for determining a treatment specificity of each cell and for determining a timing sequence for inflating of each cell based on the determined treatment specificity of each cell;

said sleeve having a center point circumference of $N\pi r$ when the cell is deflated and a center point circumference of $2Nr$ when the cell is inflated, where N is the number of compartments in the cell, and where r is the cross-sectional radius of each compartment when inflated, the center point circumference being a line passing through each center point of each adjacent intra-cell compartment of said inflatable cell;

said compartmental bonds of said intra-cell compartments, during inflation, being drawn towards each other to decrease a distance therebetween and towards the center point of said intra-cell compartments to decrease a distance therebetween, so as to provide for circumferential constriction.

37. (Previously Presented) The system of claim 36, wherein said pump unit is battery operated.

38. (Previously Presented) The system of claim 37, wherein said pump unit comprises a rechargeable battery.

39. (Previously Presented) The system of claim 36, wherein said pump unit comprises an air compressor.

40. (Previously Presented) The system of claim 36, wherein said conduit comprises a single tube for delivering fluid to said sleeve.

41. (Previously Presented) The system of claim 36, wherein said conduit comprises means for indicating to said control unit the treatment specificity of each cell.

42. (Previously Presented) The system of claim 36, wherein said sleeve comprises at least one self-operated valve.

Claims 43-72 (Canceled)

73. (Previously Presented) A device for applying pressure to a body limb having a primary axis, comprising:

first and second inflatable cells, each of the first and second inflatable cells including at least three intra-cell compartments;

said intra-cell compartments being confluent, each compartment being elongated along a primary axis of a body limb;

said first and second inflatable cells being adjacent each other and arranged coaxially with respect to the primary axis of the limb when engaged with a limb;

said first and second inflatable cells each including inner and outer shells of durable flexible material;

said inner and outer shells being bonded together to form a perimetric bond about a perimeter of the inflatable cell, said perimetric bond defining the inflatable cell as a volume between said inner and outer shells and within the perimetric bond;

said inner and outer shells being further bonded together to form a plurality of compartmental bonds within the inflatable cell bond, said plurality of compartmental bonds defining the three intra-cell compartments

said perimetric cell bond including first and second perimetric cell bond portions, said first and second perimetric cell bond portions being substantially parallel thereto, wherein a portion of said compartmental bonds partly extending between said first and second perimetric cell bond portions;

said compartmental bonds extending between said first and second perimetric cell bond portions including perforations to allow for confluent airflow between adjacent intra-cell compartments within a cell;

said adjacent intra-cell compartments within a cell being spatially fixed relative to each other such that upon inflation of said adjacent intra-cell compartments within the cell, the cell becomes circumferentially constricted;

said first and second inflatable cells being non-confluent such that that said first and second inflatable cells are separately inflatable;

means for laterally coupling outermost compartments so as to form a substantially cylindrical sleeve;

inflating means for intermittently inflating said intra-cell compartments of said first and second inflatable cells; and

control means for determining a treatment specificity of each cell and for determining a timing sequence for inflating of each cell based on the determined treatment specificity of each cell;

said sleeve having a first intra-cell compartment center point circumference when said intra-cell compartments are deflated and a second intra-cell compartment center point circumference when said intra-cell compartments are inflated, said second intra-cell compartment center point circumference being less than said first intra-cell compartment center point circumference so as to provide for circumferential constriction, said first and second intra-cell compartment center point circumferences, each being defined as a line passing through each center point of each contiguous intra-cell compartment of an inflatable cell;

said compartmental bonds of said intra-cell compartments, during inflation, being drawn towards each other to decrease a distance therebetween and towards the center point of said intra-cell compartments to decrease a distance therebetween, so as to provide for circumferential constriction.

74. (Previously Presented) The device of claim 73 wherein a ratio of said second center point circumference to said first center point circumference is about 0.64.

75. (Previously Presented) An automatic portable ambulant system for applying pressure to a body limb, comprising:

a sleeve including first and second inflatable cells;

said first and second inflatable cells each including at least three intra-cell compartments;

said intra-cell compartments being confluent;

said intra-cell compartments being elongated along a primary axis of a body limb;

said first and second inflatable cells being adjacent to each other so as to be adapted to be arranged coaxially with respect to the primary axis of a body limb;

said first and second inflatable cells each including inner and outer shells of durable flexible material;

said inner and outer shells being bonded together to form a perimetric bond about a perimeter of the inflatable cell, said perimetric bond defining the inflatable cell as a volume between said inner and outer shells and within the perimetric bond;

said inner and outer shells being further bonded together to form a plurality of compartmental bonds within the inflatable cell bond, said plurality of compartmental bonds defining at least three intra-cell compartments

said perimetric cell bond including first and second perimetric cell bond portions, said first and second perimetric cell bond portions being substantially parallel thereto, wherein a portion of said compartmental bonds partly extending between said first and second perimetric cell bond portions;

said compartmental bonds extending between said first and second perimetric cell bond portions including perforations to allow for confluent airflow between adjacent intra-cell compartments within a cell;

said first inflatable cell becoming circumferentially constricted when said intra-cell compartments of said first inflatable cell are inflated;

said second inflatable cell becoming circumferentially constricted when said intra-cell compartments of said second inflatable cell are inflated;

said first and second inflatable cells being non-confluent such that the first and second inflatable cells are separately inflatable;

means for laterally coupling the outermost intra-cell compartments within a cell so as to form said sleeve into a substantially cylindrical shape; and

a portable hand-held pump unit for intermittently inflating any one or more selected cells

of the sleeve via a conduit, said pump unit including a control unit for determining a treatment specificity of each cell and for determining a timing sequence for inflating of each cell based on the determined treatment specificity of each cell;

said sleeve having a first intra-cell compartment center point circumference when said intra-cell compartments are deflated and a second intra-cell compartment center point circumference when said intra-cell compartments are inflated, said second intra-cell compartment center point circumference being less than said first intra-cell compartment center point circumference so as to provide for circumferential constriction, said first and second intra-cell compartment center point circumferences, each being defined as a line passing through each center point of each contiguous intra-cell compartment of an inflatable cell;

said compartmental bonds of said intra-cell compartments, during inflation, being drawn towards each other to decrease a distance therebetween and towards the center point of said intra-cell compartments to decrease a distance therebetween, so as to provide for circumferential constriction.

76. (Previously Presented) The system of claim 75 wherein said pump unit is battery operated.

77. (Previously Presented) The system of claim 76 wherein said pump unit comprises a rechargeable battery.

78. (Previously Presented) The system of claim 75 wherein said pump unit comprises an air compressor.

79. (Previously Presented) The system of claim 75 wherein said conduit comprises a single tube for delivering fluid to said sleeve.

80. (Previously Presented) The system of claim 79 wherein said conduit comprises means for indicating to said control unit the treatment specificity of each cell.

81. (Previously Presented) The system of claim 75 wherein a ratio of said second center point circumference to said first center point circumference is about 0.64.

82. (Previously Presented) The system of claim 75 wherein said sleeve comprises at least one self-operated valve.

Claims 83-84 (Canceled)

85. (Previously Presented) A device for applying pressure to a body limb having a primary axis, comprising:

first and second inflatable cells;

said first and second inflatable cells each including at least three intra-cell compartments;

said intra-cell compartments being confluent;

said intra-cell compartments being elongated along a primary axis of the limb and being substantially rectangular in shape when deflated and substantially cylindrical in shape when inflated;

said first and second inflatable cells being adjacent each other and arranged coaxially with respect to the primary axis of the limb;

said first and second inflatable cells each including inner and outer shells of durable flexible material;

said first and second inflatable cells each including inner and outer shells of durable flexible material;

said inner and outer shells being bonded together to form a perimetric bond about a perimeter of the inflatable cell, said perimetric bond defining the inflatable cell as a volume between said inner and outer shells and within the perimetric bond;

said inner and outer shells being further bonded together to form a plurality of compartmental bonds within the inflatable cell bond, said plurality of compartmental bonds defining at least three intra-cell compartments

said perimetric cell bond including first and second perimetric cell bond portions, said

first and second perimetric cell bond portions being substantially parallel thereto, wherein a portion of said compartmental bonds partly extending between said first and second perimetric cell bond portions;

said compartmental bonds extending between said first and second perimetric cell bond portions including perforations to allow for confluent airflow between adjacent intra-cell compartments within a cell;

said first inflatable cell becoming circumferentially constricted when said intra-cell compartments of said first inflatable cell are inflated;

said second inflatable cell becoming circumferentially constricted when said intra-cell compartments of said second inflatable cell are inflated;

said first and second inflatable cells being non-confluent such that said first and second inflatable cells are separately inflatable;

means for laterally coupling the outermost intra-cell compartments within a cell so as to form a sleeve into a substantially cylindrical shape;

inflating means for intermittently inflating the first and second inflatable cells; and

control means for determining a treatment specificity of each cell and for determining a timing sequence for inflating of each cell based on the determined treatment specificity of each cell;

said sleeve having a first intra-cell compartment center point circumference when said intra-cell compartments are deflated and a second intra-cell compartment center point circumference when said intra-cell compartments are inflated, said second intra-cell compartment center point circumference being less than said first intra-cell compartment center point circumference so as to provide for circumferential constriction, said first and second intra-cell compartment center point circumferences, each being defined as a line passing through each center point of each contiguous intra-cell compartment of an inflatable cell;

said compartmental bonds of said intra-cell compartments, during inflation, being drawn towards each other to decrease a distance therebetween and towards the center point of said intra-cell compartments to decrease a distance therebetween, so as to provide for circumferential constriction.

86. (Previously Presented) The device of claim 85 wherein a ratio of said second center point circumference to said first center point circumference is about 0.64.

87. (Previously Presented) An automatic portable ambulant system for applying pressure to a body limb, comprising:

a sleeve including first and second inflatable cells;

said first and second inflatable cells each including at least three intra-cell compartments;

said intra-cell compartments being confluent;

said intra-cell compartments being elongated along a primary axis of a limb and being substantially rectangular in shape when deflated and substantially cylindrical in shape when inflated;

said first and second inflatable cells being adjacent each other and arranged coaxially with respect to the primary axis of the limb;

said first and second inflatable cells each including inner and outer shells of durable flexible material;

said inner and outer shells being bonded together to form a perimetric bond about a perimeter of the inflatable cell, said perimetric bond defining the inflatable cell as a volume between said inner and outer shells and within the perimetric bond;

said inner and outer shells being further bonded together to form a plurality of compartmental bonds within the inflatable cell bond, said plurality of compartmental bonds defining at least three intra-cell compartments

said perimetric cell bond including first and second perimetric cell bond portions, said first and second perimetric cell bond portions being substantially parallel thereto, wherein a portion of said compartmental bonds partly extending between said first and second perimetric cell bond portions;

said compartmental bonds extending between said first and second perimetric cell bond portions including perforations to allow for confluent airflow between adjacent intra-cell compartments within a cell;

said first inflatable cell becoming circumferentially constricted when said intra-cell compartments of said first inflatable cell are inflated;

said second inflatable cell becoming circumferentially constricted when said intra-cell compartments of said second inflatable cell are inflated;

said first and second inflatable cells being non-confluent such that said first and second inflatable cells are separately inflatable;

means for laterally coupling the outermost intra-cell compartments within a cell so as to form said sleeve into a substantially cylindrical shape; and

a portable hand-held pump unit for intermittently inflating any one or more selected cells of the sleeve via a conduit, said pump unit including a control unit for determining a treatment specificity of each cell and for determining a timing sequence for inflating of each cell based on the determined treatment specificity of each cell;

said sleeve having a first intra-cell compartment center point circumference when said intra-cell compartments are deflated and a second intra-cell compartment center point circumference when said intra-cell compartments are inflated, said second intra-cell compartment center point circumference being less than said first intra-cell compartment center point circumference so as to provide for circumferential constriction, said first and second intra-cell compartment center point circumferences, each being defined as a line passing through each center point of each contiguous intra-cell compartment of an inflatable cell;

said compartmental bonds of said intra-cell compartments, during inflation, being drawn towards each other to decrease a distance therebetween and towards the center point of said intra-cell compartments to decrease a distance therebetween, so as to provide for circumferential constriction.

88. (Previously Presented) The system of claim 87 wherein a ratio of said second center point circumference to said first center point circumference is about 0.64.

89. (Previously Presented) The system of claim 87 wherein said conduit comprises a single tube for delivering fluid to said sleeve.

90. (Previously Presented) The system of claim 89 wherein said conduit comprises means for indicating to said control unit the treatment specificity of each cell.

91. (Previously Presented) The system of claim 87 wherein said sleeve comprises at least one self-operated valve.

Claims 92-104 (Cancelled)

105. (Previously Presented) An automatic portable ambulant system for applying pressure to a body limb having a primary axis, comprising:

an inflatable cell; and

said inflatable cell including at least two intra-cell compartments;

said intra-cell compartments being confluent, each compartment being elongated in a direction of the primary axis; and

said inflatable cell further including inner and outer shells of durable flexible material;

said inner and outer shells being bonded together to form a perimetric cell bond;

said inner and outer shells being further bonded together to form compartmental bonds within said perimetric cell bond, said perimetric bond and said compartmental bonds defining the intra-cell compartment;

said perimetric cell bond including upper and lower perimetric cell bonds;

said compartmental bonds partly extending between said upper and lower perimetric cell bonds;

said compartmental bonds including perforations to allow for confluent airflow between adjacent intra-cell compartments within said cell, adjacent intra-cell compartments being spatially fixed relative to each other, such that upon inflation, said cell becomes circumferentially constricted;

said inflatable cell having a first center point circumference when said intra-cell compartments are deflated and a second center point circumference when said intra-cell compartments are inflated, said second center point circumference being less than said first

center point circumference so as to provide for circumferential constriction, said first and second center point circumferences, each being defined as a line passing through each center point of each contiguous intra-cell compartment of an inflatable cell;

said compartmental bonds, during inflation, being drawn towards each other to decrease a distance therebetween and towards the center point of said intra-cell compartments to decrease a distance therebetween, so as to provide for circumferential constriction;

a portable hand-held pump unit for intermittently inflating said inflatable cell via a conduit;

said portable hand-held pump unit including a control unit for determining a treatment specificity of said inflatable cell and for determining a timing sequence for inflating of said inflatable cell based on the determined treatment specificity of said inflatable cell.

106. (Previously Presented) The system of claim 105 wherein said portable hand-held pump unit is battery operated.

107. (Previously Presented) The system of claim 105 wherein said portable hand-held pump unit comprises a rechargeable battery.

108. (Previously Presented) The system of claim 105 wherein said portable hand-held pump unit comprises an air compressor.

109. (Previously Presented) The system of claim 105 wherein said conduit comprises a single tube for delivering fluid to said inflatable cell.

110. (Previously Presented) The system of claim 105 wherein said conduit comprises means for indicating to said control unit the treatment specificity of said inflatable cell.

111. (Previously Presented) The system of claim 105 wherein said inflatable cell comprises at least one self-operated valve.

Claims 112-134 (Cancelled)

135. (Previously Presented) An automatic portable ambulant system for applying pressure to a body limb having a primary axis, comprising:

an inflatable cell, said inflatable cell including at least two intra-cell compartments; said intra-cell compartments being confluent, each compartment being elongated in a direction of the primary axis; and

said inflatable cell further including inner and outer shells of durable flexible material;

said inner and outer shells being bonded together to form a perimetric cell bond;

said inner and outer shells being further bonded together to form compartmental bonds within said perimetric cell bond, said perimetric bond and said compartmental bonds defining the intra-cell compartment;

said perimetric cell bond including upper and lower perimetric cell bonds;

said compartmental bonds partly extending between said upper and lower perimetric cell bonds;

said compartmental bonds including perforations to allow for confluent airflow between adjacent intra-cell compartments within said cell, adjacent intra-cell compartments being spatially fixed relative to each other, such that upon inflation of said cell, said cell becomes circumferentially constricted;

said inflatable cell having a center point circumference of Nπr when said cell is deflated and a center point circumference of 2Nr when said cell is inflated, where N is the number of intra-cell compartments in said cell, and where r is the cross-sectional radius of each compartment when inflated, the center point circumference being a line passing through each center point of each adjacent intra-cell compartment of said inflatable cell;

said compartmental bonds, during inflation, being drawn towards each other to decrease a distance therebetween and towards the center point of said intra-cell compartments to decrease a distance therebetween, so as to provide for circumferential constriction;

a portable hand-held pump unit for intermittently inflating said inflatable cell via a

conduit;

said portable hand-held pump unit including a control unit for determining a treatment specificity of said inflatable cell and for determining a timing sequence for inflating of said inflatable cell based on the determined treatment specificity of said inflatable cell.

136. (Previously Presented) The system of claim 135, wherein said portable hand-held pump unit is battery operated.

137. (Previously Presented) The system of claim 136, wherein said portable hand-held pump unit comprises a rechargeable battery.

138. (Previously Presented) The system of claim 136, wherein said portable hand-held pump unit comprises an air compressor.

139. (Previously Presented) The system of claim 136, wherein said conduit comprises a single tube for delivering fluid to said sleeve.

140. (Previously Presented) The system of claim 136, wherein said conduit comprises means for indicating to said control unit the treatment specificity of said inflatable cell.

141. (Previously Presented) The system of claim 136, wherein said sleeve comprises at least one self-operated valve.